OIPE JC131
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT EXAMINING OPERATIONS

#19
8/23/01

Art Unit: 1711 (Examiner S. Acquah)

Applicants: Ligia Dominguez de Walter, et al.

Serial No: 08/520,662

Filed: August 28, 1995

Title: PROCESS FOR THE PREPARATION OF HEAT STABLE, ANTIMONY-FREE POLYESTERS OF NEUTRAL COLOR AND THE PRODUCTS WHICH CAN BE PREPARED BY THIS PROCESS

Charlotte, North Carolina
August 6, 2001

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

RECEIVED
AUG 14 2001
TC 1700

Honorable Commissioner of Patents
Washington, DC 20231

Dear Sir:

AMENDED BRIEF UNDER 37 C.F.R § 1.192(d)

This Amended Brief is to correct the deficiencies set forth in the Patent Office Communication dated July 20, 2001 concerning the above-identified U.S. Patent Application. The Examiner states that the Brief does not contain a statement of the status of an Amendment filed subsequent to Final Rejection as required by 37 C.F.R. § 1.192(c)(4). To the contrary, however, Appellant's Brief mentions in Section 4 the status of the Amendment. The Amendment, in response to the Final Rejection, was entered upon the filing of the appeal and the response overcame the Section 112 rejections of claims 1 and 8. Thus, the Brief contained a correct statement of the status of the Amendment filed subsequent to the Final Rejection (the Amendment under 37 C.F.R. §

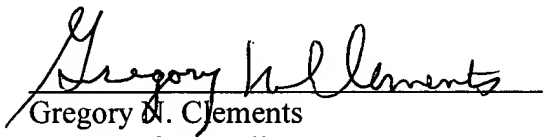
November 4, 1996). So contrary to the Communication dated July 20, 2001, Appellant's Brief did indicate the correct status of the Amendment after Final Rejection.

It is noted, however, that the Final Rejection dated July 31, 1996 contained a restriction requirement. The summary page of the Final Rejection stated that claim 8 (as well as other claims) is withdrawn from consideration. Yet in paragraph 21 of the Final Rejection the Examiner continued to reject claim 8 under 35 U.S.C. § 112. Moreover, in the Advisory Action dated December 3, 1996, the Examiner clearly states that the 35 U.S.C. § 112 rejection of claims 1 and 8 has been overcome with the 115 Amendment dated November 4th. With claim 8 being withdrawn, this was obviously confusing.

In thoroughly reviewing the claims in the Appeal Brief, it was determined that claims 1, 3, 6, 12, 13, 15 and 22 are incorrect. Accordingly, a corrected copy of all the claims on appeal have been set forth on the attached Amended Appendix. These claims also reflect the amendment to claim 1 set forth in the 115 Amendment dated November 4, 1996 overcoming the 35 U.S.C. § 112 rejection.

In light of these remarks and in view of the attached Amended Appendix For The Claims On Appeal, it is believed that the present application is now in condition for a decision by the Board of Appeals and such is earnestly solicited.

Respectfully,



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Docket H94F249

AMENDED APPENDIX FOR THE CLAIMS ON APPEAL

1. A process for the preparation of a heat-stable antimony-free polyester of neutral color comprising the esterification of an aromatic dicarboxylic acid or transesterification of a lower alkyl ester of an aromatic dicarboxylic acid with an aliphatic diol in the presence of 20 to 120 ppm of a transesterification metal catalyst, which is added in the form of a metal compound, and subsequent polycondensation, wherein after the esterification or transesterification has ended, a complexing agent selected from the group consisting of phosphoric acid, phosphorous acid, phosphonic acid and the esters of such acids is added to the esterification batch or transesterification batch in an amount which is 100% of the amount equivalent to the transesterification catalyst employed and up to 99% of the amount equivalent to cobalt to be employed, and wherein up to 80 ppm of the cobalt in the form of a cobalt compound is added to the batch, and the polycondensation is carried out without the addition of antimony, in the presence of 1 to 10 ppm of titanium, which is added in the form of a titanium compound.

2. The process as claimed in claim 1, wherein, the complexing agent is added to the esterification or transesterification batch in an amount of 100% of the amount equivalent to the transesterification catalyst employed and 90 to 99% of the amount equivalent to the cobalt to be employed.

3. The process as claimed in claim 1, wherein a melt is formed during the polycondensation which is carried out in the presence of 1 to 10 ppm of titanium up to an intrinsic viscosity, measured in dichloroacetic acid at 25°C, of 0.4 to 0.9 dl/g and up to a carboxyl group concentration of 10 to 50 mmol/kg in the melt, and then wherein the polycondensation is continued up to the desired end viscosity in the solid phase.

4. The process as claimed in claim 1, wherein 20 to 40 ppm of cobalt in the form of a cobalt compound are added to the batch.

5. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of 2-8 ppm of titanium.

6. The process claimed in claim 1, wherein the polycondensation is carried out in the presence of 100 to 500 ppm of organic crosslinking agents.

7. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of up to 25 ppm of an optical brightener.

10. A heat-stable, antimony-free polyester of neutral color based on an aromatic dicarboxylic acid and an aliphatic diol, prepared by the process as claimed in claim 1, in which, in the non-matted state, its color number components are
a* in the range from -3 to +3,
b* in the range from -6 to +6 and
L* in the range from 55 to 75.

11. A heat-stable, antimony-free polyester of neutral color based on an aromatic dicarboxylic acid and an aliphatic diol as claimed in claim 10, which comprises 1 to 10 ppm of titanium, 20 to 120 ppm of a transesterification catalyst metal in the form of catalytically inactive complexes with a complexing agent selected from the group consisting of phosphoric acid, phosphorous acid, phosphonic acid and the esters of such acids, and 0 to 80 ppm of cobalt, which is partly present in the form of catalytically inactive complexes with a complexing agent selected from the group consisting of phosphoric acid, phosphorous acid, phosphonic acid and derivatives thereof.

12. A heat-stable, antimony-free polyester of neutral color as claimed in claim 10, which comprises 2 to 8 ppm of titanium, 50 to 90 ppm of manganese in the form of catalytically inactive complexes with a complexing agent selected from the group consisting of phosphoric acid, phosphorous acid, phosphonic acid and the esters of such acids, and 20 to 40 ppm of cobalt, which is partly present in the form of catalytically

inactive complexes with a complexing agent selected from the group consisting of phosphoric acid, phosphorous acid, phosphonic acid and derivatives thereof.

13. A heat-stabled, antimony-free polyester of neutral color as claimed in claim 10, in which, in the non-matted state, its color number components are
a* in the range from -2 to +2,
b* in the range from -3.5 to +3.5 and
L* in the range from 60 to 70.

14. A heat-stable, antimony-free polyester of neutral color as claimed in claim 10, in which 90 to 99% of the cobalt is in the form of one or more catalytically inactive complexes with a complexing agent selected from the group consisting of phosphoric acid, phosphorous acid, phosphonic acid and the esters of such acids.

15. A heat stable, antimony-free polyester of neutral color as claimed in claim 10, which comprises 5 to 25 ppm of an optical brightener.

19. A heat-stable, antimony-free polyester of neutral color as claimed in claim 10, in which the catalytically inactive complexes of manganese and of cobalt are complexes with phosphorous acid or an ester thereof.

20. A heat-stable, antimony-free polyester of neutral color as claimed in claim 10, which further comprises up to 1000 ppm of crosslinking structural groups.

21. The process as claimed in claim 1, wherein the transesterification catalyst is manganese in the form of a manganese compound.

22. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of up to 1000 ppm of organic crosslinking agents.

23. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of up to 50 ppm of an optical brightener.

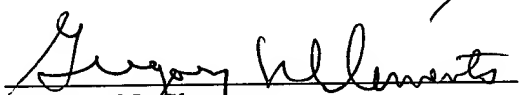
24. The process as claimed in claim 3, wherein the end viscosity of the heat-stable antimony-free polyester is 0.7 to 2.0 dl/g, measured in dichloroacetic acid at 25°C.

25. A heat-stable, antimony-free polyester of neutral color as claimed in claim 11, which further comprises up to 50 ppm of an optical brightener.

26. A heat-stable, antimony-free polyester of neutral color as claimed in claim 12, which further comprises up to 25 ppm of an optical brightener.

29. The process as claimed in claim 1, wherein the titanium compound is potassium titanyloxalate.

Respectfully,



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2. The process as claimed in claim 1, wherein, the complexing agent is added to the esterification or transesterification batch in an amount of 100% of the amount equivalent to the transesterification catalyst employed and 90 to 99% of the amount equivalent to the cobalt to be employed.

3. The process as claimed in claim 1, wherein a melt is formed during the polycondensation which is carried out in the presence of 1 to 10 ppm of titanium up to an intrinsic viscosity ~~[IV]~~, measured in dichloroacetic acid at 25°C, of 0.4 to 0.9 dl/g and up to a ~~carboxly~~ carboxyl group concentration of 10 to 50 mmol/kg in the melt, and then wherein the polycondensation is continued up to the desired end viscosity in the solid phase.

4. The process as claimed in claim 1, wherein 20 to 40 ppm of cobalt in the form of a cobalt compound are added to the batch.

5. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of 2-8 ppm of titanium.

6. The process claimed in claim 1, wherein the polycondensation is carried out in the presence of 100 to 500 ppm of organic crosslinking agents.

7. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of up to 25 ppm of an optical brightener.

10. A heat-stable, antimony-free polyester of neutral color based on an aromatic dicarboxylic acid and an aliphatic diol, prepared by the process as claimed in claim 1, in which, in the non-matted state, its color number components are
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L* in the range from 60 to 70.

14. A heat-stable, antimony-free polyester of neutral color as claimed in claim 10, in which 90 to 99% of the cobalt is in the form of one or more catalytically inactive complexes with a complexing agent selected from the group consisting of phosphoric acid, phosphorous acid, phosphonic acid and the esters of such acids.

15. A heat stable, antimony-free polyester of neutral color as claimed in claim 10, which ~~compromises~~ comprises 5 to 25 ppm of an optical brightener.

19. A heat-stable, antimony-free polyester of neutral color as claimed in claim 10, in which the catalytically inactive complexes of manganese and of cobalt are complexes with phosphorous acid or an ester thereof.

20. A heat-stable, antimony-free polyester of neutral color as claimed in claim 10, which further comprises up to 1000 ppm of crosslinking structural groups.

21. The process as claimed in claim 1, wherein the transesterification catalyst is manganese in the form of a manganese compound.

22. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of up to 1000 ~~pmm~~ ppm of organic crosslinking agents.

23. The process as claimed in claim 1, wherein the polycondensation is carried out in the presence of up to 50 ppm of an optical brightener.

24. The process as claimed in claim 3, wherein the end viscosity of the heat-stable antimony-free polyester is 0.7 to 2.0 dl/g, measured in dichloroacetic acid at 25°C.

25. A heat-stable, antimony-free polyester of neutral color as claimed in claim 11, which further comprises up to 50 ppm of an optical brightener.

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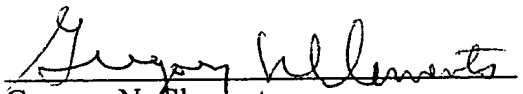

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